

shade; a black terminal line, and a pale line on base of fringe, interrupted by white points. Secondaries dull brown; a dark discal point; fringe gray; at apex roseate, divided by a black line. Expanse 28 mm.

*Habitat*: Costa Rica.

**Perigrapha dukinfieldi**, sp. nov.

Head, thorax and primaries lilacine brown. Abdomen darker with pale tufts at base. Primaries thinly irrorated with black scales; lines very fine, brown, geminate; basal line wavy, followed by a dark point outwardly shaded with white in cell; inner line oblique to cell, then straight; orbicular a dark point inwardly shaded with white; median shade thicker, strongly angled on reniform posteriorly; reniform large, circled with buff, then outwardly shaded with reddish-brown, and marked with black posteriorly; outer line curved below costa, the outer portion punctiform from vein 5 to inner margin; an interrupted reddish-brown subterminal line parallel to outer line; a terminal black line preceded by black points. Secondaries dull brown; fringe roseate. Expanse 45 mm.

*Habitat*: Sao Paulo, southeastern Brazil.

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SOME NEW NEUROPTEROID INSECTS.

BY NATHAN BANKS.

PSOCIDÆ.

**Psocus genualis**, sp. nov.

Pale yellow; head with a median shining brown spot on ocelli, a patch of brown each side behind, and a median one on upper part of nasus. Lateral lobes of thorax shining black. Abdomen marked with black. Legs yellow; tarsi dark brown, tips of femur and base of tibia marked with shining black. Antennæ large, reaching beyond tips of wings: yellow on base, darker beyond, short pilose. Wings hyaline, venation brown, the radius pale till near angle of pterostigma, the forking of radial sector and the posterior cross-vein closing the discal cell white; the median white on base, and the cubitus and anal white to tip, where there is a brown spot; a smaller brown spot at base of the pterostigma. The discal cell is almost square. Length to tip of wings 6 mm.

One specimen from Austin, Texas, June (McClendon). Distinguished by markings of face, and the black knees. Similar in many respects to *P. novæ-scotiæ*, but with different markings.

**Psocus slossonæ**, sp. nov.

Head pale yellowish, nasus with vertical dark lines, partly obsolete above; labrum black; palpi black; antennæ with basal joints brown, then pale till near middle, beyond which it is blackish. Vertex with about eight brown roundish spots

each side, and several grouped into a figure at center about ocelli; mesothorax pale, with a median brown spot behind; similar spots on front and hind margins of metathorax. Legs pale; femur I banded with brown at middle and before tip, other femora banded near tip only; tibiæ with bands near base and near tip, sometimes indistinct; tarsi dark. Abdomen pale, marked with brown in uncertain manner from dried specimens. Wings hyaline, heavily marked with dark brown as follows: an incomplete basal band, a median band starting from near middle of costal margin and extending obliquely backward, in its posterior part with a hyaline spot; the apical half of the pterostigma brown, and a band reaching from it across the wing; the apical part of wing clouded with brown, but leaving clear spaces between the terminations of the veins; just basad of this band is a crescent of six black spots, one in each cell, the posterior ones forming eye-spots. There is also a patch of small black spots near middle of wing, and a couple near middle of posterior margin. The venation is mostly whitish or pale, except where the wing is dark, where the veins are also dark. Hind wings hyaline. Venation of true *Psocus*, the discal cell about twice as long as wide, and nearly equally wide throughout. Pterostigma rounded behind. Length to tip of wings 4.4 mm.

Specimens come from Franconia, N. H.; Ithaca, N. Y., September 1; and Falls Church, Va., July 12. Separated from all our other species by the ocellate markings in apical part of fore wings. It is apparently allied to the European *P. sexpunctatus*, but the wings are more slender, more heavily marked, etc.

#### ***Psocus tolteca*, sp. nov.**

Head entirely yellow; antennæ black; palpi black; thorax and abdomen black, the latter indistinctly banded with pale on base; legs dark or black, the femora sometimes paler than the other joints. Wings hyaline, with a large basal black mark, a black V-mark, and an apical black band reaching base of the V-mark. This marking is thus like that of *P. nigrofasciatus* Prov., but the apical mark extends to the margin on the veins, leaving a clear space between veins. The wings are more slender than in that species, and the head is wholly yellow. Length 6-7 mm.

Many specimens from Guadalajara, Mexico.

#### ***Peripsocus fumosus*, sp. nov.**

Pale yellowish-brown without distinct markings; the ocellar spot shining black and two faint marks behind; the lobes of thorax darker in middle than on the sides. Antennæ dark, rather large, pilose. Legs pale brownish, the femora above, and the tarsi darker brown; abdomen dark brown. Wings uniformly dull blackish, with a minute white spot at tip of posterior branch of median vein. Venation blackish; hind wings not so heavily fumose. The radial sector forked just above the last fork of the median vein. Length to tip of wings, 3 mm.

Two specimens from southwestern Colorado (Osler).

#### ***Peripsocus californicus*, sp. nov.**

Head pale, nasus brown, vertex with two brown spots; thorax and abdomen marked with brown; antennæ pale, basal joints reddish; legs pale. Wings hyaline,

with ten small brown spots, as follows: one at base and one at apex of pterostigma, one at connection of radial sector with median, and one at the termination of the each of the seven veins. Wings slender; pterostigma three times as long as wide, equally wide throughout, radial sector and median meeting at but one point which is fuscous; no posterior cell; fork of radial sector nearer base than last fork of the median; venation yellowish and brown in fore wings, brown in hind wings. Length to tip of wings 2 mm.

Several specimens from Berkeley, Cal. Easily known by the ten dots on wings.

**Cæcilius pinicola**, sp. nov.

Pale yellow throughout; a reddish spot each side of ocelli; antennæ rather heavy and brown. Wings pale yellowish, venation of same color. Wings slender, pterostigma long, rounded off behind; radial sector and median vein united for about the width of a cell; radial sector forked before the second fork of the median vein; posterior cell half-elliptical. Length to tip of wings 2.5 mm.

Several specimens from Falls Church, Va., October 10, in pine trees. Appears to be related to *C. aurantiacus*, but separated by lack of black posterior venation, and duller colored wings.

**Ptilopsocus annulicornis**, sp. nov.

Head yellowish, vertex blackish in the middle, nasus pale, clothed with many short white hairs; eyes prominent; antennæ very hairy, reaching tip of the body, each segment white on basal third, rest black; thorax rufous, darker on the sides; abdomen dark. Wings hyaline; pterostigma, posterior cell, and tip of wing, brown; tip of hind wings faintly brown; venation very hairy. Venation and shape of wings

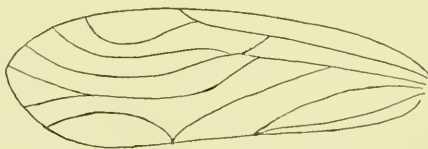


FIG. 1. *Ptilopsocus annulicornis*. Venation of wing.

very much like *P. griseolineatus* Enderlein. The pterostigma very long, and rounded behind; the radial sector forked close to base; the median vein with but one fork which is toward tip of wing, beyond end of pterostigma, the posterior cell is very large, elongate, larger than the pterostigma. The legs are pale, the hind femora dark at base. Length to tip of wings 4 mm.

One specimen from Falls Church, Va., June 8. The four species of this genus all come from Peru, and its discovery in the United States is of much interest.

CHRYSOPIDÆ.

**Leucochrysa punctata**, sp. nov.

Head pale yellowish; antennæ pale yellowish; pronotum pale, with a brown dot each side toward the margin, rest of thorax pale, dark at base of wings; legs pale;

abdomen pale, brown towards tip. Wings hyaline, pterostigma in both pairs very distinctly brown; venation mostly pale, many of the cross-veins dark at ends, both gradate series brown. Divisory veinlet of the third cubital cell starts near the lower end of the cross-vein; wings rather broad and rounded at tips. Length to tip of wings 15 mm.

Two specimens from Guatemala. A very distinct species because of the prominence of the pterostigma in all wings and the two brown dots on pronotum.

***Chrysopa aztecana*, sp. nov.**

Face yellowish, a black semicircle along base of clypeus; basal joints of antennæ pale, beyond deep black; palpi black, narrowly banded with pale, vertex pale, with a median line and a reddish spot each side; pronotum pale, brown on sides; rest of thorax pale; abdomen brown. Wings hyaline, pterostigma not marked; venation brown, except the subcosta, radius, and median veins, which are pale. Two series of gradate veins in both wings; divisory veinlet ending beyond the cross-vein. Wings rather narrow, and acute at tips in both pairs. Length to tip of wings 15 mm.

One specimen from Truxpan, Mexico, September 5 (McClendon).

SIALIDÆ.

***Corydalis texana*, sp. nov.**

General color luteous, blackish around ocelli, two punctate streaks behind scarcely paler, pronotum with the hastate and lateral scars hardly paler than general surface; antennæ blackish, basal joints yellowish; legs yellowish, darker on base of tibia and on tarsus. Wings with one white spot in each costal cell, the latter very regular in size, many white dots scattered through the other cells; forkings and cross-veins mostly black; costal cross-veins black at ends, longitudinal veins yellow, a few small indistinct clouds in some cells, the pterostigma scarcely infuscated. Head not very broad, in both sexes with a tooth behind eye; male mandibles but little longer than those of female, their greatest length hardly equal to length of head, without a free tooth at base of the apical part or fang. Superior male appendages not very long, incurved, and twisted toward tip; inferior appendages upturned and clavate. Length from tip of mandibles to tip of wing but 48 mm.; expanse of wings 76 mm.

One pair from Laredo, Texas, August 13 (McClendon). Separated from all others by small size, small mandibles, and especially from *C. cognata* by absence of a subapical tooth to male mandibles, and by the pale color of the scars on pronotum. Mr. Davis in his recent monograph of the Sialidæ has described a species from Ithaca, N. Y., as *Chauliodes concolor*; it differs, according to table, from *C. angusticollis* in having black instead of brown antennæ. No other differences are given in the description. I have specimens from Ithaca which have brown antennæ. This difference, I think in this family, is not worthy of the barest notice; certainly it is not of specific value, and *C. concolor* is equal to *C. angusticollis*. I also think that Mr.

Davis's *Sialis morrisoni* is only a specimen of *S. nevadensis* not fully colored. The two species were collected at same place on same date by same party.

MYRMELEONIDÆ.

**Dendroleon pumilus** *Burm.*

This species does not seem to have been noted for many years. Hagen in his "Stray Notes" does not treat of it. I have one specimen from Lake Worth, Florida, which may be described more fully than the early accounts, as follows:

Head black, a pale transverse line from eye to eye above antennæ; pronotum jet black, with a prominent white spot each side on the anterior margin; thorax black, sutures on pleura white; abdomen black, a prominent white spot near middle of each segment, and tips of third and fourth segments white on the sides; legs black, knees, middle of tibia and two bands on tarsus white, provided with erect white bristles. Wings hyaline, veins black, longitudinal ones mostly interrupted with white, each fore wing with about eleven prominent black spots, six along radius, between it and the subcosta, one half way out on cubitus, one at fork of cubitus, two on upper fork of cubitus, the last under last of radial series, and one at end of lower fork of cubitus, where it meets the anal vein; hind wings unmarked, venation brown. Prothorax slender, legs slender, tibial spurs as long as first two joints of tarsus; abdomen slender, reaching scarcely to tip of hind wings. Anterior wings rather broad before tip, scarcely falcate at tip; hind ones narrower, but as long as fore wings, and rather more falcate at tips. Anal vein ends as far out as origin of first fork of radial sector; and in hind wings, the anal vein does not go beyond fork of cubitus; in fore wings are three cross-veins basad of radial sector, in hind wings but two. Length 20 mm.

Readily known from *D. obsoletus* by smaller size, smaller spots on wings, absence of marks on hind wings, and color of head, thorax, and legs, as well as the presence of marks on the abdomen. It agrees with that species in all essential points of venation, but being smaller, has not as dense venation, especially in apical part.

**Brachynemurus dorsalis**, sp. nov.

Face yellowish, a dark brown interantennal mark, concave below, a pale transverse band from eye to eye above antennæ; vertex brown, with a small pale band on posterior margin not reaching the eyes. Antennæ brown, annulate with pale, basal joints pale. Pronotum brown on sides, with a broad, pale median stripe, rather broader in front than behind, continued back on thorax, but rather broken by median marks; lateral lobes brown, with a pale dot just above base of wings; mesoscutellum with a median brown stripe; legs pale, the femora dark brown near tips, especially on outer side, tibia with a narrow band near middle and one at tip, and tarsus with two dark bands. Abdomen dark brown, unmarked. Wings hyaline, veins brown interrupted with pale, a distinct brown dot at tip of upper fork of cubitus toward

outer margin of wings, and another at end of lower fork near end of anal vein. Wings rather narrow; but few costal cross-veins forked; venation on usual plan. Length 27 mm.

Laredo, Texas (McClendon). Similar in appearance to *B. longicaudus* but markings of head, pronotum and legs entirely different.

***Myrmeleon mexicanum*, sp. nov.**

Head black, shining below antennæ and the scars on vertex; lower part of face pale yellowish as well as along eyes; pronotum brown, with a pale yellowish spot at each anterior corner, and sometimes two near the middle; rest of thorax gray-brown, abdomen same color, last segments partly pale; legs pale yellowish, marked with black, femora with a long black spot above near tip; tibia with a black spot before middle, and a band at tip; the tarsi tipped with brown. The pale parts of the legs are not dotted. The black spot on middle femora is larger than the others. Wings hyaline, the longitudinal veins (except anal) interruptedly yellow and black, other veins black; pterostigma small, white. Length 35 mm., expanse 74 mm.

Several specimens from Guadalajara, Mexico (McClendon).

It differs from *M. abdominalis* in not having black dots on the pale parts of the legs, and no pale spots on abdomen, except at tip. It differs from *M. occidentalis* in having the hind femora pale, with only a black patch above and more white on face.

TRICHOPTERA.

***Glyphotælius bellus*, sp. nov.**

Face and vertex brownish, with short grayish hair, posterior margin with longer erect hair; antennæ yellowish, basal articles rather long, ocelli small, vertex flat; prothorax short, with long yellowish hair; meso- and metathorax yellowish, with a black stripe each side; abdomen brown; legs yellow-brown, spines small and black. Anterior wings yellow in anterior half, brown on posterior half, a long silvery streak in thyridial area nearly to base separates the two parts, this crosses the anastomosis and extends into fifth apical cell for one third its length; another silvery streak in fourth apical cell nearly to base; the outlines of these streaks are very clear near anastomosis; another hyaline streak in apical part of first subapical cell; a faint trace of a silvery streak along posterior edge of radius. Pterostigma rather darker than its environment; venation yellowish. Wing long; posterior apical margin plainly excised; pedicel of discal cell as long as cell; second and fourth apical cells broad at base; radius at pterostigma curved. Hind wings hyaline; the third, fourth and fifth apicals extend nearer base than others; a black dot in base of third. Length to tip of wings 26 mm.

One specimen from Nanaimo, British Columbia, September 3 (Taylor). This species differs much in appearance from *G. hostilis*; the incision of apex of wings is an even one, and the wings are much narrower; the basal joints of the antennæ are not as long, and the prothorax is shorter.



**Homophylax nevadensis**, sp. nov.

Pale yellowish, head and thorax unmarked, clothed with yellow hair; abdomen brown toward tip; legs with black spines and yellow spurs, latter 1-2-2; antennæ yellow; wings yellow, clothed with yellow or tawny hairs, with five dark brown, pointed stripes; one on the discal cell, one in fourth apical reaching nearly to tip, one in second subapical, one in the thyridial cell, and a long one near base in anal area. Hind wings yellowish; venation of both pairs yellowish. The posterior and anterior anastomoses are in the same line, making the apical cells very long. The wings are rather more slender than in *H. flavipennis* and the spur formula different. Length to tip of wings 20 mm.

One specimen from Ormsby County, Nev., July 6 (Baker).

**Asynarchus pallidus**, sp. nov.

Face yellowish, vertex brownish-yellow; antennæ brown, pale yellow toward tips. Head and thorax with yellow hair; ocelli of moderate size. Meso- and metathorax yellowish; abdomen pale brown; legs pale yellow, with black spines wings pale yellow, sparsely yellow-haired, with yellowish venation, except that the anastomosis is usually dark; a dark dot usually present in base of third apical cell in both wings, fifth apical cell in fore wings acute or even pedicellate, in hind wings first, third and fifth apicals are acute at base; anastomosis in hind wings often weak or lacking; radius in fore wings bent at pterostigma; discal cell as long as pedicel. Length to tip of wings 15 mm.

South Park, Colorado, August 23 (Osler). This species apparently approaches the genus *Parachiona* Thomson.

**Neophylax fuscus**, sp. nov.

Head black, with black hair; antennæ yellowish, basal joints long, brown; thorax black, with mostly black hair; abdomen brown, legs pale yellowish, with a few black spines. Spurs 1-2-2. Wings dark brown, indistinctly irrorate with pale; hind wings dusky; venation of both pairs brown. Shape of wings and venation much as in *N. concinnus*; the pterostigma prominent, and radius strongly bent at this point. In hind wings the apical cells are variable, as in *N. concinnus*. Length to tip of wings 9 mm.

Agricultural College, Michigan, September 25 (Pettit); and Franconia, N. Hamp. (Mrs. Slosson).

**Leptocerus floridanus**, sp. nov.

Head yellowish, clothed with long, white hair; pronotum with long white hair; rest of thorax yellowish, with shorter and more sparse white hair; antennæ white, narrowly annulate with dark brown; legs yellow, with short white hair, tarsi banded on tips with brown; wings pale brown, rather densely clothed with white hair, mostly in small patches, giving the wing a marmorate appearance; apical fringe alternately brown and white; hind wings with the apical part slightly infuscated. Length to tip of wings 10 mm.

One specimen from Biscayne Bay, Florida (Slosson).

Differs from all our other species in the covering of hoary hair.

**Hydropsyche analis**, sp. nov.

Head black, with sparse black hair. Antennæ brown, annulate with pale; thorax black, with some black and yellowish hair; legs pale yellowish, a dark mark on tips of tibiae, and the tarsi dark; abdomen brown. Wings a uniform brown, except a triangular white mark at end of anal vein, surface very sparsely clothed with short golden hairs; hind wings not so dark as fore pair; venation brown. Anterior wings rather narrow, hind pair with a rather long fringe on posterior margin. Length to tip of wings 7-8 mm.

Several specimens from Ithaca, N. Y., May till July; and River-ton, New Jersey, July 16. Easily known from our other species by the uniform brown wings, except the anal white mark.

**Pellopsyche**, gen. nov.

Venation like *Philopotamus* and *Dolophilus* except that the cross-vein which in those genera arises from the base of the thyridial cell in this genus arises beyond middle of that cell and continues across the cubitus to the anal vein; this probably being due to the wing being narrower than in those genera. Discal cell short and

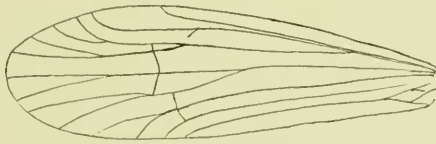


FIG. 2. *Pellopsyche signata*. Venation of wing.

narrow; both branches of the radial sector forked beyond anastomosis; upper branch of median vein forked beyond the anastomosis, lower branch at anastomosis. Spurs 2-4-4; ocelli present; palpi slender and long, antennæ as long as wings, first joint enlarged.

**Pellopsyche signata**, sp. nov.

Head yellow, with long white hair in front and above; antennæ pale, tips of joints are narrowly brown; palpi pale; legs pale; spurs yellowish; abdomen pale yellow. Wings pale yellowish; venation yellowish; anastomosis black and a blackish mark near pterostigma; beyond this is a broad white band, and beyond the wing is broadly brown. On the white part are white hairs, elsewhere the hair is golden. On fork of median vein is a prominent circular black dot, and a similar one is on fork of lower branch of radial sector. Hind wings hyaline; both pairs with long pale fringe. Length to tip of wings 5 mm.

Several specimens from Ft. Collins, Colorado (Titus).